



U.S. Fish and Wildlife Service

Non-Federal Oil & Gas Development on National Wildlife Refuge System Lands

Oil & Gas on Refuges

- ♦ Non-Federal oil and gas wells can be found on 103 refuges and 4 Wetland Management Districts.
- ♦ Existing development consists of over 5,000 wells of which about 1,700 are active.
- ♦ As shown on the map below, new development of unconventional oil and gas resources has the potential to add to the numbers of wells and refuges affected.

The Service is proposing to revise its existing oil and gas regulations to implement a higher and more consistent level of protection for National Wildlife Refuge System resources and uses from the effects of non-Federal oil and gas activity.

Why are there non-Federal oil and gas wells in Refuge System lands?

Non-federal (e.g., private) oil and gas wells exist in Refuges because: 1) the wells/mineral rights remained in private, state/local government, or tribal ownership when a refuge was established or lands were added, and 2) in Alaska, the wells/mineral rights are part of land interests conveyed to Native corporations under the Alaska Native Claims Settlement Act, or held by the State of Alaska and other private land-owners.



Orphaned wells have no solvent owner. This pumpjack was left to rust on a refuge/USFWS

Development of nonfederal mineral rights must be balanced with protection of natural systems on which people depend.

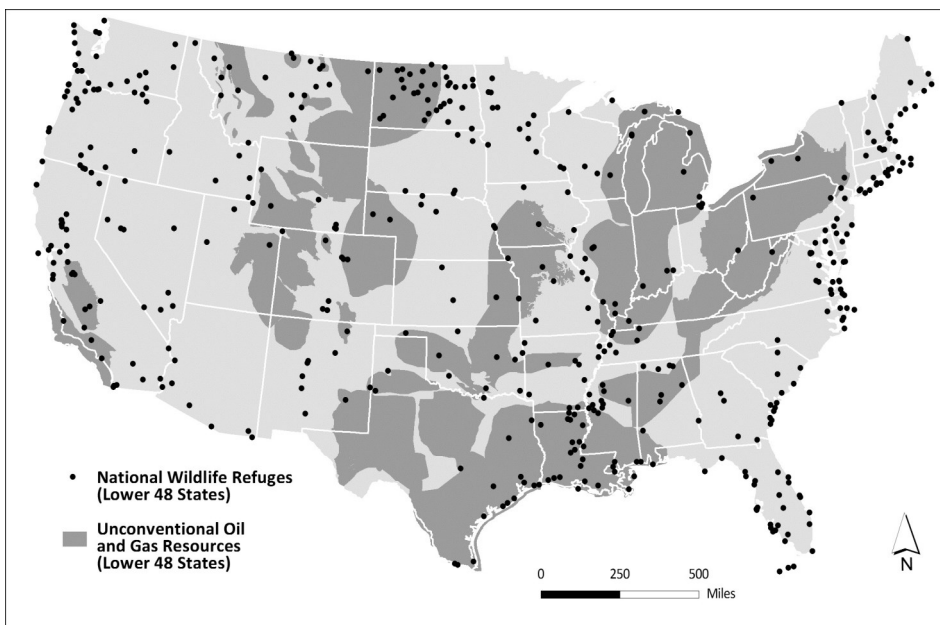
Oil and gas development presents a conservation challenge because it can contribute to habitat loss and fragmentation, increase spread of invasive species, result in soil and water contamination, and increase water scarcity.

Legacy of Orphaned Wells.

Refuges are burdened with a legacy of an estimated 450 unplugged wells and unrestored sites that no longer have a known or solvent operator. Fully addressing the problem could cost the public in excess of \$20 million.

Human health and safety can be compromised by having inadequate safeguards.

Leaks, spills and physical hazards pose health and safety risks to refuge staff and visitors. Those risks could be better managed with operational standards, which would lower the risk of adverse effects on human health and safety.



Distribution of National Wildlife Refuges and unconventional oil and gas resources (shale and tight sands) in the continental U.S.



Pumpjack in a flooded wetland/USFWS

Why does the Service acquire land without purchasing the mineral rights?

Service policy is to purchase the minimum interest necessary to accomplish its conservation mission. In many cases, it would be prohibitively expensive to purchase the mineral rights. Instead, the Service manages oil and gas activities to avoid or minimize their adverse impacts on refuge resources and uses, while recognizing that private rights holders are fully entitled to explore and develop their petroleum resources. Balancing oil and gas development with the management of a refuge presents complex challenges.

Oil isn't the only thing that leaks.

Highly saline formation water or brine is extracted along with oil and gas. Often, brine is collected in storage tanks and injected under pressure back into the formation to force more oil out of the ground. A network of pipes or flowlines moves the brine from the oil wells to storage tanks and to injection wells. Pipe failures and leaks are common due to the corrosive nature of the brine.

Why does the Service need to manage oil and gas activities on refuges when the states regulate such activities?

State oil and gas commissions have a different mission than the Service. State commissions are charged with administering oil and gas permits, while providing some level of protection to the surface owners. In addition, while state regulations provide an important set of environmental protections, they vary significantly by state. The Service, by law, is charged with meeting a high environmental standard. The Service is seeking to complement State regulations to better protect ecosystems and wildlife on refuges.

Does the Service seek reimbursement from owners of abandoned, plugged or shut-in wells when they cause environmental damage?

When the Service becomes aware of a problematic well, we seek all available avenues of reimbursement from the owners if they have damaged federal resources. However, often there is no solvent owner to pursue for damages. In those cases, taxpayers shoulder the cost of the environmental damage.

Of the active wells on refuges, how many are oil wells?

Based on best available information, 257 wells produce primarily oil and eight wells produce a combination of oil and gas. The remainder produce primarily natural gas.



Aging flowlines and corrosion lead to leaks and environmental damage/USFWS



Brine leaking from oil well/USFWS

Refuges:

- ◇ Support habitat for > 700 species of birds, 220 species of mammals, 250 reptile and amphibian species and more than 1,000 species of fish
- ◇ Protect > 380 threatened or endangered plants or animals
- ◇ Host over 47 million visitors each year, generating \$1.7 billion and creating about 27,000 jobs in local economies

How does the Service know how many wells occur on refuges?

We have a database developed from well information collected from each oil and gas producing state.

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<http://www.fws.gov/refuges/oil-and-gas/>

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